IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant	:	Jeffrey J. Schroeder, *et al.*	Confirmation No. 2569
Serial No.	:	10/806,643	
Filed	:	March 23, 2004	
Art Unit	:	1771	
Examiner	:	Hai Vo	
Title	:	FOAM BARRIER HEAT SHIELD	
Docket No.	:	35691US1	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REPLY BRIEF

This Reply Brief is filed under 37 CFR § 41.41 in response to the Examiner's Answer that was mailed December 26, 2007. The two-month period for responding to the Examiner's Answer, as set forth at 37 CFR § 41.41(a)(1), will expire February 26, 2008. Accordingly, this Reply Brief is timely filed on or before that date.

If any fees are required by this communication, please charge the same to our Deposit Account No. 16-0820, Order No. INTF 35691US1.

Examiner's Arguments Regarding Claim 47 in View of Zwick

U.S. Patent No. 6,302,466 to Zwick (hereinafter "Zwick") does not teach or suggest the "foam layer being deformable to accommodate a particular shape and contour to which the heat shield is to be bent and to generally conform in use without substantially damaging the cellular structure of the foam as a result of such deformation" as claimed in claim 47. Zwick fails to teach or suggest the deformation of the foam layer to form the insulating assembly into the desired shape. Further, Zwick also fails to make any reference to the reaction of the foam's cellular structure when the foam is deformed to accommodate the particular shape and contour to which the heat shield is to be bent.

In the Examiner's answer it is alleged that a mere reference to the "resiliency" and "spring action" of an insulating assembly in Zwick indicates that the foam layer is deformable to accommodate a particular shape and contour to which the heat shield is to be bent and to generally conform in use without substantially damaging the cellular structure of the foam as a result of such deformation. A passage in Zwick is relied upon to explain that this resilient insulating assembly may thus act as a spring between the car body part and the backing sheet of the insulating assembly. *See* Zwick, col. 3, lines 42-43. But the interpretation of "deformation" proposed by the Examiner ignores the definition of "deformation" in Zwick as a slight compression of the insulating assembly between the backing sheet and the car body part. *See* Zwick, col. 4, lines 1-5. Zwick fails to disclose how the insulating assembly is formed into the arcuate shape shown in Figure 1 (e.g., whether the foam is molded in the final shape of the insulating assembly, and thus not deformed) that is to be installed against the body panel, and there is no indication that the foam layer in Zwick is deformed to achieve that final shape.

In contrast, the foam layer is described in the specification as being semi-rigid and "not recoverable en masse or in bulk upon deflection..." Appellants' Application, paragraph [0024], lines 10-14. And the foam layer of the insulating assembly is clearly deformed to accommodate the particular shape and contour to which the heat shield is to be bent. For example, "[a]fter the foam layer 16 has cured, the resulting sandwich composite is or can be cut (e.g. die cut) into individual, discrete heat shields, each of which is then formable (crush formable) into the desired shape or configuration depending on the location in an automobile where the heat shield will be applied. The resulting heat shield is able to retain the surface contour and shape of the final shape to which it is crush formed, and the foam layer is not damaged or destroyed as a result of crush-forming because it is not a rigid foam, but it is a semi-rigid foam." Appellants' Application, paragraph [0040], lines 12-18.

From this it is clear that the "slight compression" exerted on the insulating assembly according to Zwick is not the deformation claimed in claim 47 to accommodate a particular shape and contour to which the heat shield is to be bent.

But even assuming for the sake of argument that the slight compression of the resilient insulating assembly in Zwick amounts to the claimed deformation of the foam layer into the particular shape and contour to which the heat shield is to be bent, which appellant maintains it does not, Zwick certainly fails to teach or even make reference to the effect of said deformation

on the cellular structure of a foam layer. The Examiner's Answer does not cite any portion of Zwick as teaching the claimed deformable foam layer including a cellular structure that is not substantially damaged as a result of deformation. Instead, the Examiner appears to again rely on the terms "resilient" and "spring action" describing the bulk properties of the insulating assembly as a whole in Zwick to imply that this somehow teaches deformation of the foam layer without damaging the cellular structure of the foam.

Even further, the Examiner's Answer admits that Zwick fails to teach or disclose the claimed thermal and acoustical insulation properties, but relies on the alleged structural similarties to claim that such properties are inherently present. But due to the actual structural differences between the claimed invention and the teachings of Zwick, appellants again maintain that the claimed thermal and acoustical properties are not inherent.

For at least the above reasons, appellants maintain that the Examiner's Answer fails to adequately address each of the features claimed in independent claim 47 with Zwick as required to establish a *prima facie* case of anticipation or obviousness under 35 U.S.C. §102 or §103.

Examiner's Arguments Regarding Claim 47 in View of Ragland

International Application Publication No. WO 90/14944 to Ragland *et al.* (hereinafter "Ragland") also fails to teach or suggest the foam layer that can be deformed without substantially damaging the cellular structure of the foam as a result of the deformation as claimed in independent claim 47. The Examiner's Answer goes to great lengths to show that Ragland discloses a foam layer sandwiched between two layers of metal, something appellants have long since acknowledged. But nowhere in the Examiner's Answer is the limitation directed toward the deformation of the foam layer without substantially damaging the cellular structure of the foam layer addressed in view of Ragland.

The position taken in the Examiner's Answer with regard to the deformability limitation is in direct conflict with the explanation of the teachings of Ragland set forth in the final Office Action that led to this appeal. In fact, the final Office Action admits that Ragland does not teach the deformability limitation. See, final Office Action, page 5, lines 3-7. More surprising, the Examiner's Answer now explains that Ragland teaches "[t]he insulation layer is a polyester non-woven batt." Examiner's Answer, page 5, lines 6-7 (citing Ragland at page 10, lines 25-28).

Appellants respectfully submit that the Examiner cites this embodiment of the insulation layer instead of the claimed foam layer because the only ***deformable*** insulating assembly suggested by Ragland is that which is formed from a woven fibrous material or non-woven batt. There is no disclosure by Ragland of an insulating assembly including the claimed foam layer that can be deformed without substantially damaging the cellular structure of the foam layer as claimed in independent claim 47.

Further, Ragland is also acknowledged in the Examiner's Answer as failing to teach the claimed thermal and acoustical insulating properties claimed in independent claim 47, again relying on the perceived inherent teachings of Ragland. But due to the structural differences between the invention claimed in claim 47 of the appellants' application and the heat barrier in Ragland the claimed insulation properties in claim 47 are not inherently present.

For at least the above reasons, appellants maintain that the Examiner's Answer fails to adequately address each of the features claimed in independent claim 47 with Ragland as required to establish a *prima facie* case of anticipation or obviousness under 35 U.S.C. §102 or §103.

Examiner's Arguments Regarding Claim 47 in View of Poole in View of Ragland

U.S. Patent No. 6,955,845 to Poole *et al.* (hereinafter "Poole") in view of Ragland, contrary to the Examiner's Answer, does not disclose the deformability limitation claimed in independent claim 47. Poole is admitted in the Examiner's Answer as failing to disclose a foam layer as an insulator. Examiner's Answer, page 7, lines 18-19. And again, Ragland is cited as teaching "[t]he insulation layer is a polyester non-woven batt." Examiner's Answer, page 8, line 3. The non-woven batt or the woven fibrous insulation layer are the only insulating layers in Ragland that are deformable. Nowhere does Ragland disclose a foam layer that is deformable without substantially damaging the cellular structure of the foam layer as a result of the deformation as claimed in claim 47. Further, neither reference discloses any of the claimed thermal or acoustical properties.

The Examiner's Answer also alleges that one would be motivated to combine the teachings of Poole and Ragland by the desire to obtain high heat insulation. But the Examiner's Answer overlooks the teachings in Poole that teach away from the claimed invention. For

example, Poole details the need to fully encapsulate the insulation insert cited in the Examiner's Answer within a polymer based blanket. According to Poole, "[b]y encapsulating the insert 16 in this manner, any dust released by the insert during bending and manipulating of the insulator 10 during installation on a vehicle is trapped in the blanket layer 14." Poole, column 6, lines 31-34. This indicates damage to the insert as a result of deformation, in direct conflict with the claimed deformation of the foam layer without substantially damaging its cellular structure in independent claim 47. Poole's teaching away is fully addressed in appellants' Appeal Brief.

For at least the above reasons, appellants maintain that the Examiner's Answer fails to adequately address each of the features claimed in independent claim 47 with Poole in view of Ragland as required to establish a *prima facie* case of obviousness under 35 U.S.C. §103.

Conclusion

In summary, the arguments in the Examiner's Answer fail to cure the deficiencies contained in the last Office Action. Zwick, Ragland and Poole, alone or in any combination, all fail to teach or suggest the claimed limitation: a foam layer disposed in between said first and second metallic outer layers, said foam layer being deformable to accommodate a particular shape and contour to which the heat shield is to be bent and to generally conform in use without substantially damaging the cellular structure of the foam as a result of such deformation, as claimed in independent claim 47. Additionally, the Examiner's Answer also fails to cure the deficiencies in the last Office Action associated with the absence of the claimed thermal and acoustical insulation properties in claim 47. And finally, the combination of Poole and Ragland as set forth in the Examiner's Answer is improper as such a combination teaches away from the invention claimed in claim 47.

In view of the foregoing, it is respectfully submitted that the arguments contained in the Examiner's Answer are either improper or ineffective to sustain the rejections of claim 47 and the claims depending therefrom. Accordingly, it is requested that those rejections be reversed, and that the application be passed to issuance forthwith.

Respectfully submitted,

PEARNE & GORDON LLP

By: /donald j. firca, jr./
Donald J. Firca, Jr., Reg. No. 48,140

1801 East 9th Street
Suite 1200
Cleveland, Ohio 44114
Phone: (216) 579-1700
Fax: (216) 579-6073

Date: February 26, 2008